

Review Comments
Prospect Island Project Modification Report

Executive Summary

- 1) On page ES-2 it states that there will be a "side channel and dead-end slough." This statement needs to be corrected to state that there will be THREE side channels with branching dead-end sloughs.
- 2) On page ES-2 it describes the plan's two breaches as "one at the upstream end on Miner Slough and the other at the downstream end of the ship channel." This is incorrect. The Miner Slough breach is planned to be DOWNSTREAM, not upstream.
- 3) On page ES-2 is states, "fisheries, endangered species and vegetation were expected to benefit from the project." The statement should read - "Overall, fisheries, waterfowl, shorebirds, vegetation, and various threatened and endangered species are expected to benefit from the project."

Chapter 1

- 1) On page 5 it states that "The non-Federal share of this project, the monitoring, and the operation and maintenance are funded by Category III." This statement should be corrected to state that "DWR, as the non-Federal sponsor, will fund its share of the project, including long-term operation and maintenance, through a grant from Category III."

"DWR also has prepared a separate but related monitoring proposal for Prospect Island and is requesting Category III funds for three years of monitoring. DWR proposes to convene a Prospect Island Interagency Ecological Program Project Work Team to conduct this monitoring, which will include monitoring of fishery and wildlife resources, water quality including disinfection byproduct precursors, vegetation, zooplankton, phytoplankton, benthos and bathymetry. This team will ensure coordination between the different monitoring elements of DWR's proposed monitoring plan and Project post-implementation monitoring."

- 2) On page 9 it is stated that 90 to 100 ships per year pass through the channel at 9 to 10 knots. Rapid drawdown and return surge caused by these ships has not been addressed. The potential for material to be

carried into the Sacramento Deep Water Ship Channel and which agency has responsibilities for the possible removal of this material should be defined. The PMR should clarify that the Corps dredges the ship channel and will continue to have full responsibility for this dredging even if the Project causes some increase in deposition of sediment in the channel.

Chapter 2

- 1) On page 16 it says that Prospect Island flooded when the levees breached in six places. This statement should be corrected to state that the levee breached in three places and overtopped in various other spots.
- 2) On page 16 it says that two private property owners access their land via Prospect Island levee roads. It should be clarified in this section that only one of the private property owners has legal authority to use Prospect Island roads. The other private property owner does not have legal access.
- 3) On page 17 it refers to the power lines that run across the island, but it does not say what will be done with the power lines during construction. DFG/USFWS should be contacted to determine whether leaving the power lines and poles in place has certain advantages to birds.
- 4) On page 18 it says, "Five breaches along Miner Slough opened during January 1997, four on the Port's property and one on Reclamation's property." This statement should be corrected to read that "Three breaches occurred in total. One breach occurred on the Miner Slough levee on Bureau property, a second breach occurred on the Miner Slough levee on Port property, and a third breach occurred on the cross levee separating the Port property from the Bureau property."
- 5) On page 21 it states, "Since Prospect Island is privately owned and used for agriculture, there is very little recreational use of the island." It is incorrect that Prospect Island is privately owned; Prospect Island is currently owned by USBR.

Chapter 3

- 1) On page 25 it says, "Delta smelt have declined roughly 10-fold in the past 10 years (from several million to several hundred thousand)." This is an incorrect statement. The population of delta smelt has not and cannot be accurately estimated. Please refer to IEP Newsletter (Spring 1996) article titled, "Why we don't do population estimates for delta smelt" by Bruce Herbold of the EPA.

2) On page 25, under "Fisheries", the reference to California splittail should be changed to Sacramento splittail.

3) On page 27 under "SRA Habitat", the statement that SRA habitat would benefit "chinook salmon and other wildlife" should be changed to say that SRA habitat would benefit fish and wildlife.

4) On page 27 and 28, both the statements, "The narrow width of the channel and large size of passing ships in the channel cause substantial bank erosion and necessitate the placement of larger and more expensive rock on the levee. The Corps has started to place larger rocks because some of the older rock sites have failed." and "Since completion of the ship channel in 1963, erosion of the channel has necessitated relatively frequent and extensive rock bank protection to maintain levee integrity.", indicate that extensive maintenance of the ship channel levee has been required. The Corps should discuss the planned nonmaintenance of the ship channel levee, what they anticipate will happen to sediment and levee material in the absence of maintenance, and what contingencies exist if there is extensive shoaling.

The Corps should describe the existing maintenance program for the ship channel. Chapter One pages 8-10 of the PMR, "Existing Water Resources Projects," indicates the Corps constructed the Deep Water Ship Channel under federal authorization. Does federal law authorize the Corps to conduct maintenance dredging of the channel? If so, the Corps should modify the PMR to indicate that the Corps will continue to be responsible for maintenance dredging including any changes in dredging due to the Prospect restoration project (carried out because of the Corps' original ship channel construction) and this dredging is consistent with existing authority.

5) Although model results show a low potential for shoaling, hydraulic model studies could be used to verify that the risk might indeed be small by actually doing the analysis. This analysis should indicate that any increase in shoaling is acceptable under the Corps' original project authorization and purpose for the Deep Water Ship Channel construction and operation.

Chapter 4

1) On page 30 it says, "the excavation would take the form of a channel through Prospect Island, connecting two levee breaches. Dredged material from concurrent maintenance of the ship channel could also be used." Both sentences need correction. The tentatively selected project plan (also referred

herein as the preferred alternative), alternative number 5, has two southern breaches resulting in a dendritic system, rather than a flow through type system. The ship channel dredged material has not been identified as a source of soil for creating islands under alternative 5. The Corps should modify the PMR to describe the ship channel maintenance dredging program if it intends to use this material for the selected plan.

2) On page 32 it says, "the project has been designed to prevent fish stranding." There should be a follow-up statement explaining what design measures exactly were incorporated to prevent fish stranding.

3) On page 33, the first paragraph discusses the success of natural colonization at the Cache Slough site. It is unclear whether this applies to Prospect Island. This paragraph should be clarified with respect to applicability to Prospect Island. Also, if possible, a reference for the Cache Slough success should be cited.

4) The chart of net gains/losses of cover type and habitat value for different alternatives on page 46 shows large net losses of shallow flood cover with the project. How are these losses calculated if the baseline condition is nonflooded agriculture?

5) On page 46, it is stated, "the non-Federal sponsor, DWR, would assume all O&M responsibilities for the Prospect Island project." A follow-up statement should be added to clarify that DWR will assume all O&M responsibilities AFTER the Corps and DWR complete a three-year post-implementation monitoring (or establishment) period. The Corps should provide in Chapter IV a description of the post-implementation monitoring in a separate section or under "Meeting Study Objectives." See comment 6 below.

6) On page 48, the Corps should describe post-implementation monitoring, authority for this monitoring, why it is needed, and the relationship to DWR's separate proposed monitoring for Prospect Island. This description should also be part of Chapter V on page 53 under Construction and Monitoring. For example, the Corps could include in Chapter IV, either under a separate heading or under "Meeting Study Objectives", the following: "Because the Prospect Island Project is a pilot study for habitat restoration in tidally influenced areas, post-implementation monitoring is necessary to assure the project is meeting its objectives and will be a valuable reference for other such projects. Corps' 1995 Circular EC No. 1105 -2-206, Appendix A, page 18, (providing guidance for implementing Section 1135 projects) allows for extending the construction period to include post-implementation monitoring. The Corps will extend the

construction period to provide for three years of post-implementation monitoring (also referred to as an establishment period). The post-implementation monitoring would assure that the restoration project has established vegetation of sufficient size or maturity and created islands will maintain stability to achieve project objectives. Project "implementation" may include such monitoring to help determine if there is a need to correct the project if it is not meeting its objectives. Such corrections would be cost shared by the Corps and DWR pursuant to the Project Cooperation Agreement."

7) On page 47 there is a recreation section that is incomplete. Tom Harvey from USFWS should be contacted and questioned as to what exactly will and will not be allowed (in terms of recreation) when Prospect Island is managed as part of the North Delta Wildlife Refuge.

8) On page 49 under "Potential Adverse Effects" there is a section on "water quality." One potential adverse water quality effect that is not addressed is leaching of pesticides and herbicides resulting from past farming practices on Prospect Island. Another potential adverse water quality effect is that increased organic carbon levels could have an impact on the North Bay Aqueduct.

9) On page 50 it says, "A breach in the west levee of Miner Slough may direct higher velocity outflows from the interior of Prospect Island toward the east levee of Miner Slough, possibly resulting in increased erosion of the east Miner Slough levee." As a follow-up to this statement, it should state that if additional rip-rap is needed to protect the project levee, then the Corps and the nonfederal sponsor would be responsible for these added costs during the three year post-implementation monitoring or establishment period.

Chapter 5

1) On page 53, the fourth paragraph states "DWR would monitor the site subsequent to construction," should be corrected to state: "In a separate but related project, which may occur concurrently with the Prospect project post-implementation monitoring, DWR plans to monitor fisheries, wildlife, vegetation, water quality including disinfection byproduct precursors, zooplankton, phytoplankton, benthos and bathymetry.

2) On page 53, it states that "Should monitoring show that another breach is necessary to provide an alternative fish migration corridor or to increase water velocities, it is recommended that DWR or another agency pursue construction of the northern breach on Miner Slough as discussed in Alternative 4." If the project is not functioning as planned with sufficient water velocities, then this is a

design deficiency, and it should be identified in the post-implementation monitoring period and the Corps and non-federal sponsor would have to consider what corrective actions could be pursued to meet project objectives, such as a northern breach on Miner Slough.

3) On page 53, the second sentence of Construction and Monitoring should be modified to recognize the three-year post implementation monitoring period performed by the Corps and DWR and that DWR will also perform a separate but related monitoring project, which may be performed concurrently with the post-implementation monitoring. (See comment number 7 under Chapter 4.)

4) On page 53, add to the list of elements that DWR will monitor "disinfection byproduct precursors."

5) On page 54 under "Compliance with Environmental Laws and Regulations," the California Environmental Quality Act needs to be added.

Chapter 7

1) On page 60 it says, "DWR, the non-federal sponsor, supports the recommended restoration plan and would provide the real estate, relocation, and disposal requirements needed to implement the project and to allow for full restoration." It should be clarified that DWR will provide the necessary real interests as determined by the Corps and that the Corps has determined that DWR will not need to acquire property rights on Prospect Island where the land is already held by the Federal government.

Geotechnical Report - Appendix A

1) Until a site-specific soil study is conducted on Prospect Island to determine soil compositions, it should be assumed that there is peat soil on Prospect Island. Therefore, substantial consolidation and settlement can be expected. The internal islands should therefore be over built by more than 1 foot and other design features should be altered to account for this consolidation and settlement.

2) On page 4 under "Constructability", the design report states that a minimum 3 year construction contract is required to compensate for settlement. The tentatively selected plan (alternative 5) on page 53 calls for construction to occur in one year. As part of the post-implementation monitoring, which extends the construction period, the Corps and non-federal sponsor should monitor for subsidence. If subsidence occurs, the

sponsors should correct the problem during this time as part of the project requirements to meet project objectives. The text of the PMR on page 53 should be changed to reflect the Geotechnical Report recommendations.

3) DWR Engineering agrees with recommendations a through h and the Conclusions on pages 4 and 5. These recommendations should be incorporated into the project design and on page 53 of the PMR project description for the tentatively selected plan.

Confirmatory Environmental Site Assessment - Appendix B

1) The report states that the mobile trailer is no longer located at the northwestern part of the island on the Ship Channel levee. As of November 14, the mobile trailer appears to be back at the location. This trailer and the inhabitants should be removed from the site permanently.

2) The recommendation in the site assessment calls for the cleanup and removal of all debris, refuse, and scrap. Plans should be made for this to be carried out before the project goes to construction.

3) SPA and SRA should be lumped under the SRA heading.

Environmental Assessment/Initial Study - Appendix C

1) Following the 1-page draft Finding of No Significant Impact, there should be a 1-page draft Proposed Negative Declaration.

2) On page 4, add disinfection byproducts precursors to the list of elements in the DWR 3-year monitoring program.

3) On page 29 it states that sediment eroding from the Ship Channel levee could accumulate in the channel resulting in additional dredging. It should be stated as a follow-up statement that any additional dredging of the Deepwater Ship Channel would be the responsibility of the Corps under its existing authorities.

4) In the description for alternatives 2, 3 and 5 on pages 5, 6 and 7, it states that fill material from the Port's property may be used. Does the ACOE have an agreement to allow the use of fill material from the Port's property? The PMR should explain how the Corps intends to obtain this material and other possible sources if the material cannot be obtained. If not, the sentence should be changed to only include fill material from Reclamation's property.

5) On page 15 under baseline conditions, it states that "Repairs and de-watering is (sic) anticipated to take place in the summer of 1997." Repairs have been initiated in 1997, but further repairs and de-watering are not anticipated to take place until the summer of 1998.

6) On page 35, there is a paragraph where toxicity bioassays from water samples taken from sloughs in the vicinity of Prospect Island are discussed. There is the sentence, "Chronic invertebrate toxicity (suppression of reproduction) was observed regularly on Prospect Island and Duck Slough during the irrigation season from March to September." The previous sentence says, "Three sites were screened in the northern Delta: Prospect Slough, Duck Slough, and Elkhorn Slough." Was the toxicity found on Prospect Island or in Prospect Slough? If the sample was taken from Prospect Slough, it should be clarified that Prospect Slough is on the other side of the Deep Water Ship Channel from Prospect Island. If the toxicity was found in one of the agricultural drains on Prospect Island, it should be clarified that Prospect Island has not been farmed since January 1997 when the island flooded and will have been out of agriculture for nearly three years by the time project construction is complete. The last sentence of the paragraph, "It is unknown how representative these three sites are of the future water quality of Prospect Island." should be changed to say, "It is not likely that there will be toxicity from pesticides on Prospect Island by the time habitat is established on Prospect Island because Prospect Island will not have been farmed for three years. However, if needed, DWR will conduct toxicity monitoring as part of the post-project monitoring program."

7) For the same paragraph mentioned above, please clarify the relationship between Duck Slough, Elkhorn Slough, Prospect Slough and Miner Slough.

8) On page 38, under water quality effects, there is a paragraph that refers to reducing agricultural drainage water and disinfection byproduct precursor formation. The paragraph incorrectly refers to pesticide and herbicide residues as the organic carbon precursors of disinfection byproducts. Humic materials are the precursors of disinfection byproducts. The paragraph should be changed to read, "Another benefit of the project would be a reduction in agricultural drainage water. Agricultural drainage from peat soils in the Delta has been shown to contain elevated levels of dissolved organic carbon and disinfection byproduct precursors (California Department of Water Resources (DWR). 1994. Five-Year Report of the Municipal Water Quality Investigations Program.) Disinfection byproduct precursors are humic materials that form carcinogenic compounds upon water treatment. These compounds are regulated by the US Environmental Protection Agency under the Disinfectants/Disinfection Byproducts Rule. Reducing agricultural drainage may

reduce the formation of these compounds; however the contribution of wetlands to disinfection byproduct precursors has not been studied. Under its Category III monitoring proposal, DWR will have a monitoring element to measure disinfection byproducts precursor concentrations in Prospect Island.

9) The potential for impact to the North Bay Aqueduct in terms of carbon loading should be discussed under water quality effects.

10) Water quality data has been collected on Prospect Island through October (not June). (See attached data)

Basis of Design - Appendix E

1) On page 1, assumption 3.4, "Construction will be scheduled for a one year time frame." This statement conflicts with the Geotechnical appendix, which recommends a three-year time frame of staged construction. This statement should be modified to be consistent with the Geotechnical recommendations. (Please see comment number 2 under Geotechnical Report.)

2) On page 1, assumption 3.4, "Future soils investigation will not impose unanticipated limits or phased construction." This statement should read "may impose unanticipated limits or phased construction" as outlined in the Geotechnical Report (Appendix A).

3) On page 4, under Monitoring, add a paragraph about post-implementation monitoring, as part of the construction period. Modify the second sentence by inserting "post-implementation and separate DWR" before "monitoring program for this project."

4) The post-implementation or establishment period for the project should be a minimum of 3 years.

5) On page 6 under section 1.5 "Earthwork Consolidation", there is the statement "For this report, an assumption of 1 foot settling of earthwork will be incorporated." Based on DWR's Delta Test Levee program, typical one-year settlement for a 10-foot height of fill over a 20-foot thickness of organic soil would be approximately 5.5 feet. The report should adopt a more realistic value of settlement or provide justification for the value proposed. At a minimum, DWR suggests that the islands be overbuilt by at least 2-3 feet, unless soil explorations show that there is no jeopardy of significant consolidation and settlement.

6) As noted above, on page 6 under section 1.6 "Geo-technical", overbuilding by

one foot may be insufficient to allow for consolidation and settlement. A contingency for greater than expected consolidation and settlement should also be discussed as part of a post-implementation monitoring program.

7) On page 6 under "Earthwork" (2.1), there is the statement, "Top soil stockpiling of the first 18 inches within the channel area excavation will be done where practical." Top soil stockpiling should be required (see section 1.2.1 which says, "Top soil after grubbing will be stockpiled and saved for the last 1' of grading requirements of islands and berms.")

8) In Section G, which should be titled "Maintenance and post-implementation Monitoring" should specify that at least 80% vegetation cover should be established after the three year post-implementation monitoring period. The Corps and DWR, as the non-federal sponsor, will be responsible for correcting any deficiencies or problems of the project that are detected during this period.

9) Insert in Section G, "It should be noted that DWR will establish an Interagency Ecological Program Project Work Team to conduct post-project monitoring on Prospect Island. This Project Work Team should be used as a resource to determine whether the vegetation goals are achieved. "

10) On page 12 'Weed Control" it should be stated that Arundo (and any other noxious weed that out-competes natives) be eliminated from the site completely during the construction period and during the establishment period if deemed necessary.

11) On page 11, Construction Schedule should be modified to include post-implementation monitoring, and extended to end the maintenance period on November 2001. Number 15 of Schedule should be modified to state "Start post-implementation maintenance and monitoring" and number 19 should be modified to state "End of 3 year maintenance and monitoring (establishment) period for project."

12) On page 11 under Construction Scheduling and Sequencing, there is the statement, "This schedule assumes that all soils work and design work will be completed by July 1998 and no special construction restrictions are required." The construction schedule should be modified to reflect staged construction of embankments and the special requirements of performing construction over highly compressible peat foundations with a shallow groundwater table.

13) On page 12, section 1.1.1. on Tuber/Plugs, there is a sentence, "Add 1 gm of slow release fertilizer per planting." With the nutrient rich water and soil of the Delta, the added expense of fertilizer is probably not necessary for the emergent

vegetation. As an experiment, fertilizer could be used for half of the upland trees.

14) The Revegetation and Bio-engineering plant list on page 13 has a greater amount of seeds for the islands than the levee breach. What are these proportions based on?

15) On page 14, blue elderberry should be moved from the list of trees to the list of shrubs.

16) On page 15, the scientific name for Coyote Brush should be written "Baccharis pilularis" instead of "Baccharis pil. ssp. Consaguinea."

17) Under "Maintenance" (p. 15) it says "natural revegetation of native riparian volunteers will be encouraged through adaptive management." It needs to state exactly what will be done to establish natural revegetation - referring to adaptive management is too broad a statement. The sentence should be changed to read "Vegetation goals will be achieved through . . ."

18) Under "Goal and success criteria" (p. 15) it says "the success criteria will be....". As a follow-up to this statement it should read, "if success criteria are not met, then additional plantings and/or earthmoving will be done in order to meet the success criteria."

19) All eight islands should not be "long and linear". Islands should be created with as much edge habitat as possible and vary in width and length.

Itemized Cost Estimate - Appendix F

1) Due to the fact that the project is under budget, the additional funds should be used to:

- ▶ Extend post-implementation monitoring (establishment period) from 1 year to a minimum of 3 years. This establishment period should include repair of any levee failures and 80% plant cover which is necessary to meet project objectives.
- ▶ Create larger islands if possible.
- ▶ Do additional plantings if possible.
- ▶ Model the hydraulic impacts of having three breaches - the two southern breaches plus an additional breach at the North end of Miner Slough if possible.

2) The \$350,000 being contributed by the SB 34 program needs to be accounted for in the cost estimate.

Operations and Maintenance Cost Estimate - Appendix G

- 1) On page 1 under "Assumptions", item b., it says "local sponsor will be responsible for maintaining existing levees." It should be noted that the local sponsor will only be responsible for the maintenance of existing levees upon completion of the three year establishment period. During the three year establishment period, the Corps and the nonfederal sponsor will be responsible for repairing any levee failures and significant erosion to internal islands and perimeter levees in order to ensure that the vegetation has an opportunity to establish.
- 2) On page 1 under "Assumptions", item d, it says "Islands and levee benches will not require maintenance and will be allowed to change condition over time." The possibility that the islands and levee benches may require maintenance should be investigated and budgeted.
- 3) Under "Assumptions" on page 1, item e, it says that uncertainty exists about whether shoaling and sloughing of the Sacramento Deep Water Ship Channel will occur due to the project design. A follow-up statement should be added that says "any additional dredging costs incurred would be the Corps' responsibility, and not the responsibility of DWR."
- 4) According to the O&M cost estimate, it is predicted that costs will average out to \$69,000 per year. Most likely, costs will average much higher during the first few years while vegetation is being established and the islands, levees, and benches are stabilizing via the biotechnical plantings. During the first few years it will be important to repair any levee breaches that could lead to erosion of the internal islands. Once the vegetation has established, it may not be necessary to repair levee breaches.

Hydraulic Analysis - Appendix H

- 1) The model run results for the preferred alternative (Alternative 5), show that there appears to be adequate circulation with two southern breaches. However, if after completion of the project, water quality monitoring shows that circulation is inadequate, then it should be noted in the PMR that an additional levee breach will be added at the northern end of Miner Slough. Additional model runs should be conducted to demonstrate the water circulation patterns and velocities if an additional breach were added at the northern end of Miner Slough.
- 2) The hydraulic analysis should discuss whether any sedimentation is expected to occur and what will be done if sedimentation negatively impacts water circulation. On page ES-2 it states that the excavated channel will "ensure a

flow-through system". As a follow-up statement it should state that IF sedimentation fills in the channel resulting in stagnation at the northern end of the island, then the sedimentation will be removed accordingly.

3) The hydraulic analysis should discuss whether channel erosion is expected to occur due to high velocities at the breaches. If erosion does occur and alters the slopes of the islands, berms, and levees, then plant establishment will be negatively affected. A contingency plan to repair eroded portions of the islands and re-establish vegetation should be developed and described in this section, along with in the "Basis for Design" section.

Other

Soils are described differently throughout the report. Chapter 2 (page 13) states "There is very little peat soil in the project area (appendix A)." On page 33 of Chapter 4, it states "Also, the sandy soils imported at Donlon and Venice Cut Islands are more conducive to volunteer plant growth than the silty peat at Prospect Island." In Appendix A - Geotechnical Report on page 1, it states that "Surficial organic soil to include peat vary in thickness from 2 feet at the north end of the Island to 21 feet at the south end." On page 28 of Appendix C (Environmental Assessment/Initial Study), it states that "The surficial organic soil includes peat, varying in thickness from 2 feet at the north end of the island to 21 feet at the south end." Although the exact soil nature is not known at this time, the description of the soil should be modified or clarified so it is consistent throughout the report.